Indian Rose Annual - IRA 2005

François Crépin and the Discovery of R*osa gigantea*

M.S.Viraraghavan

It was the 2nd of June 1888 when M. François Crépin received the first specimen of *R. gigantea* collected by General Sir Henry Coilett in Burma (now called Myanmar). Crépin's observations are best detailed in his own words:

E*xtract of the Report of the July 2, 1888 Session of the Belgian Royal Society of Botany Bulletin, Volume XXVII, 2nd part....*

"DESCRIPTION OF NEW ASIATIC ROSE, By François Crépin, Director of the National Botanical Garden, Brussels

Last June 2nd, Mr David Prain, Conservator of the Seebpore Botan*ical Garden, near Calcutta, sent me four beautiful flowering branchlets of a rose collected by General Collett in the Shan Hills between the Kingdom of Burma and the Kingdom of Siam. Mr Prain, in a letter accompanying the specimens, said that Mr. Collett himself described this rose as a magnificent species, sprawling over rocks and climbing into trees, having a pure white flower 5 inches in diameter.*

If the species is new, Mr Collett himself wishes to give it the name: Rosa gigantea. To judge by the specimens I received, this rose is truly magnificent and it appears to be very vigorous; its corolla is certainly the largest one to be found among single rose flowers.

It is known that, in R. indica Auct., the infloresecence is nearly always multi-flowered and provided with bracts. So if one assumes that R. gigantea ordinarily has a multi-flowered inflorescence and that the single is the exception, one would probably be right to classify' it in the Indicae section.

It remains to be seen if the species is remontant as is R. indica.

While awaiting additional information, I will give a description of this rose, that admits it provisionally as a species.

Rosa gigantea Collett Mss. (Sect. Indicae?).

Unifloral inflorescence, usually without bracts, trifoliate leaves thick

smooth pedicel; ovary large, ovoid, attenuated towards the two extremitites, glaucescent, smooth; flower bud large, ovoid el'ongate (4 cms to sepals' end); sepals very long and entire, tapering from the base to the summit, slightly dilated at the tip, whitish pubescent on the internal face and along the sides, which have fine glands reflexing at antithesis. One completely spread out corolla measured 12 centimetres in diameter!

This rose is unpublished and appears to constitute a distinct species. In my opinion it should be classified as being closely relate00d to R. indica Auct. non L. (1). Does it belong in the section that I named Indicae? This is quite possible but I would need supplemental information to be able to decide this question.

Whatever the case, General Collett's discovery is worth bringing to the attention of scientists and rose fanciers (amateurs). If any one succeeds in introducing R. gigantea into Europe, and in growing it will enrich choice collections by its enormous corolla and beautiful foliage; moreover it will be, by crossing it with other species, the source, of hybrid products probably superior to those of R. indica. "

It is evident from the above that M. François Crépin was no mere taxonomist. He was obviously a lover of roses, which is far more important from the rose fancier's point of view. Subsequently, the question whether R. gigantea was indeed a new species and the fact that it was also to be found in India (Manipur) was confirmed.

Let us again reproduce Crépin's own words from the Extract ol the Report of the January 12, 1889 Session of the Belgian Royal Society of Botany Bulletin, Volume XXVIII, 2nd part, para 14.

"NEW OBSERVATIONS ON ROSA GIGANTEA COLLETT"

by François Crépin

Since I first described Rosa gigantea Collett (1), I have been able to examine some new materials that allow me to complete the earlier description. Besides what I received from General Collett, I also obtained some pieces of information it would be useful to know.

(I) See Extract of the Report of the July 2nd 1888 Session of the Belgian Royal Society of Botany Bulletin, Vol. XXVII, 2nd para, Pgs 146-150.

In a letter to me which he wrote at Meikrites (High Burma) dated July 29th the botanist informed me that he found R. gigantea in villages of *Myromati, Pwehta, Kalow, Koni, etc., that are located in Myelat district (High Burma)*

latitude: N 20°40' Longitude E 96°30', at an altitude between 4000 and 5000 feet. The species even if uncommon, is not rare as *is it was observed by my correspondent in 14 or 15 different places in Myelat district. Its canes that may reach 30 and even 40 feet long, climb on rocks, trees and shrubs.*

In the Shan Hills district where R. gigantea grows, frosts are almost unknown, suggesting that this rose should be at least in central Europe some what protected against our winter's frost, or grown in well sheltered places.

With Mr Collett's letter was a deflorate specimen crowned by a much swollen receptacle (diam: 12mm). This thick walled receptacle was extremely hard although gathered in April (1888) and still contained very young ovaries.

The sample, composed only of a secondary branch is totally unarmed, as were the previously described ones.

Earlier, I had asked the General whether the R. gigantea inflorescence was uniflorous, and whether its stems are armed with prickles. He answered that indeed there are prickles, and that the inflorescences are uniflorous, but was unable to affirm that it was always so.

Last November, I had the unexpected opportunity to learn more about the new species from Burma. In a parcel of roses sent to me for identification by the Berlin Botanical Museum, there, were six specimens of a species collected by Mr. G Watt, with the following label: " 6320. Rosa... Khongui. 6000 ft. April 1882'. Attached to one sample is a small label reading: 'Field no '6404. Herb. G Watt'. These six samples are none other than R. gigantea!!-of which the nine inflorescences are all uniflorous, each one accompamied by a basal 1-3-5 foliate leaf. Floriferous branches are usually unarmed, or, rarely, bear 1 to 3 small hooked prickles. On a robust length of stem will sometimes be found strongly hooked, thick, short, dispersed and rather numerous prickles more or less reminiscent of those of those R. arvensis Huds.

Suspecting that the Kew Herbarium might contain other samples from the same collector, I hastened writing to Mr Nicholson, asking him to undertake some searches. Obliging as usual, he responded immediately that in Kew's collections were two herbarium sheets of this kind: one labelled 'April17th 1882 at Kongui', the other labelled 'At Sirohfurar on April 11th 1882, 6000ft'. In a handwritten note, this Rose is referred to as Rosa macrocarpa Watt. On the first sheet, one inflorescence is triflorous the others are uniflorous; on the second sheet all the inflorescenes are uniflorous.

The name macrocarpa is probably justified by this species' fruit size. In the Berlin Museum Herbarium, there are two fruits the look nf\ which makes

one think that they were one year old when the blooming samples were gathered. Broadly ovoid, their diameter measures from 15 to 18 mm. The sepals which were absent (in these materials) appear very reflexed post anthesis and during maturation. (1).

Mr G Watt's discovery considerably widens R. gigantean's dispersion, area since Munipur of Manipur province, where this collector observed it, is more than 5$^{0'}$ N from Burma's Shan Hills. Perhaps this remarkable species spreads east to south western Chinese provinces"

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(1) While printing this notice, I received from the Calcutta Botanical Garden Director, M.G. King, two mature R. gigantea fruits with 30 achenes that were sown. These fruits are big, pyriform, about as wide as long (23 to 24mm), walls very thick, the flesh of which when dessicated becomes very hard and horny, with the cavity of the ovary very small, relatively. Sepals reflexing and apparently persistent. Achenes very big: 6.6 mm long by 5.7 mm wide.

(Note added while in the press).

The next stage was the flowering of this great rose in Europe which is described in vivid detail in the English gardening journal "The Gardener's Chronicle" issues of March 4th 1905 and May 11th 1912 which are reproduced below.

The Gardeners' Chronicle, March 4th 1905

Rosa gigantea (see supplementaiy illustration)

"In 1889 we received from Sir George King then the Director of the Calcutta Botanic Garden, some seeds of this noble Rose, which were distributed among those likely to succeed in its culture. Probable seeds were distributed from other sources also. Mr. GEORG PAUL informs us that he raised seedlings from'this Rose, but that they damped off; and the same fate befell others raised by Mr. LEACH. Some disappointment has been felt, at the circumstance that while the Rose grows with the greatest freedom, as at Kew and elsewhere, flowers have only very rarely been produced. Eventually in 1898 Lord BROUGHAM had the *satisfaction of flowering the plants in his garden at Cannes. In his "List of Roses now in cultivation at the Chateau Eleonore at Cannes" published in 1898, his lordship mentions the plant as having flowered in his garden for the first time in Europe last month (April*

1898 presumbly). He gives a photographic representation of it and describes it as -

"A splendid plant, making growths of 40 feet or more, with rambling branches armed with irregular prickles of moderate size, often in pairs at base of leaves, which are about 3 inches long and glabrous. The flowers are solitary, about 6 inches in diameter. Which size will not unlikely be increased when the plant is older and stonger, of a golden with yellow centre containing an unusual quantity of pollen. Petals large, broad, imbricated; disc large, styles much exserted, free, villous; stamens long. The most desirable and by far the finest single Rose I have ever seen. It does not seem to be very hardy and is subject to mildew *(as it is also here). The bud is long, larger, but very closely resembles that of Madame Marie Lavalée, and of a pure gold colour. This Rose when in flower should obviously be shaded, as the sun soon extracts the gold from the blooms, leaving behind a substitute of dirty white. At a short distance the flowers bear a close resemblance to a Clematis."*

Mr. F. CANT of Colchester, also succeeded in flowering it, but with such indifferent results that he discarded the Rose as useless for his purposes.

*Then came Mr. LEACH, the gardener to the DUKE OF NORTH-*UMBERLAND *at Albury, Surrey, who succeeded in 1903 in including the plant to produce two flowers, the first of which was just on 6 inches across. In February 1904, the same specimen produced about a dozen flowers and this year Mr. LEACH had the satisfaction of seeing 28 blooms on his plant, some of which were exhibited at the Royal Horticultural Society on Tuesday last, and secured for the exhibitor the award of a Cultural Commendation and a Botanical Certificate. Mr. LEACH cultivates the plant in a Peach-house, and the shoots are trained down on the wires.*

The colour of the flowers exhibited was ivory-white, and the foliage showed more pair of leaflets to each leaf than is represented in our illustration. A good figure is given in the Botanical Magazine, t. 7972 (September 1904), where the flowers are shown of a pale-prim rose-yellow colour, whilst the bud has the golden colour mentioned in LORD BROUGHAM's description. There is no doubt whatever from the glowing descriptions given by travellers, and such evidence as we now have, that this is indeed a grand Rose, and amply deserved the award made to it. In due time we doubt not we shall discover some means of inducing the plant to flower more freely. Up to the present, as Mr. HEMSLEY says, "every possible method of propagation has been tried ineffectually in order to obtain flowers more freely in this country, yet it flowers

profusely on the Rivera."

Sir GEORGE WATT was the first to discover this Rose (m Manipur), but the name R. gigantea was first published by the late Sir HENRY COLLETT, who found the plant in the Shan Hills, Upper Burmah. More recently it has been found in South-Western China by Dr. HENRY and others. We may therefore expect considerable variation, whilst the colour of the flowers, about which there has been d *diversity of statement, would naturally differ according to varying conditions and diverse stages of growth. Sir GEORGE WATT mentions, that the fruit is edible, as large as a small Apple, and that it is sold in the bazaars of Manipur State.*

Mr. FITZHERBERT, in our columns, May 2, 1903, p. 278. mentions the species as hardy in South Devon; and we have heard of it as grown on an outside wall at Reigate, Surrey".

THE GARDENERS' CHONICLE, May 11, 1912

ROSA GIGANTEA

"The flowering of this remarkable Rose at Kew in the spring 1910 (see Gardeners' Chronicle June 4, 1910, p. 370) was an event which had been looked forward to ever since its introduction into cultivation by General Sir Henry Collett, in 1889. At the present time it is again in flower in the Himalayan wing of the Temperate House, where it is planted out in a border amongst Himalayan and other tender Rhododendrons, and has climbed high up amongst the rafters and iron girders of the roof to a height of about 40 feet. At such a distance from the ground the beauty of its flowers cannot be perceived, but a spray is reproduced in fig.156 showing the flowers, which are from 4 to 5 inches in diameter, smaller than natural size. In the bud stage the colour is a rich copper, similar to W. Allen Richardson; this shade, however, fades rapidly as the bloom expands until, when it has been open a day or two, the colour becomes ivory white. The stamens are a bright yellow. The calyx lobes measure an inch in length, but there are specimens in the Kew Herbarium in which the lobes are even longer than this. A remarkable feature of the plant is its extraordinary vigour and the enormous amount of growth which it has made in former years. Some of the original seedlings raised from seed collected by General Collett in the Shan States were planted in several of the large houses at Kew in borders of prepared soil, and quickly made large specimens. Some of the shoots grew as much as 30 feet long. A large specimen was grown for 10 years or so in the Succulent House, where it grew rampantly. During the summer and autumn the lights on the roof were let down and the plant

exposed to all the sun and light possible, being afterwards tied down close to the glass and subjected to the dry conditions of the other inmates of this house during the winter. Other specimens were grown in the main building of the Temperate House, as well as in the Mexican and Himalayan wings. The temperature in each of the houses except that of the Himalayan wing, was sufficiently high to cause the plants to continue in growth all the year round, but in the Himalayan wing the plant obtained a rest of a few months during winter. The temperature of this house is never allowed to fall more than a few degrees below freezing point. When originally planted in this house in 1899 the plant grew rapidly in the rather stiff loamy soil of the border. The soil, however, did not suit many of the other occupants of the house, and in 1906 it was replaced with a sandy peat. This has had a marked effect upon the rate of growth of the Rose, the stems being much more slender and the growth more twiggy generally. It is to the change of soil that I attribute the flowering of the Rose, and not the hot summer of last year, for it produced flowers last year after the wet and cold summer of 1910. Cultivators would do well to try the effect of planting this Rose in a poor soil or where the roots may be restricted. They should also try the effect of a low temperature during the winter.

A full account of the discovery and histoiy of Rosa gigantea is given in the Gardeners' Chronicle, March 4,1905 p.136. The figure in the Botanical Magazine, tab. 7972, does not convey any adequate idea of the beauty of the flowers, which are depicted as being of a dirty, greenish white.

The plant was originally discovered by Dr. Watt in 1882 during the Government demarcation survey in Manipur at altitudes of 5-6,000 feet. It was later discovered by General Sir Henry Collett in the Shan Hills, Upper Burmah. It has since been collected by Dr. Henry. Mr W. Hancock, and recently by Mr. George Forrest in North-West Yunnan, China. Mr. Forrest has discovered specimens with rose-coloured flowers, which have been described as variety erubescens by Focke in Notes of the Royal Botanic Gardens, Edinburgh, v., p. 68. The variety was found in shady situations in the Lang-kong, Hocking, and Lichiang valleys, and is described by Mr. Forrest as "a semi-scandent shrub of 10-20 feet, with rose-pink, fragrant flowers." Whilst this plant closely resembles Rosa gigantea in many respects, notably in its calyx lobes and in several minor details, I am of the opinion that it is distinct. The fruit and seed, which are important characters in determining Roses, are wanting in the herbarium material of Focke's plant, and I have little doubt but that, when these are obtained, the plant will prove to be distinct.

An interesting account is given in the Journal of the Linnean Society, xxviii., p. 6, by General Collett, of the conditions under which he found R. gigantea. Dealing with the flora of the district where it *grows, he says that it "was found on a plateau, at altitudes of 4-5,000 feet, where the traveller was at once struck with the temperate character of the flora. The trees were mostly Oaks and Pines, whilst the herbaceous plants were represented by species of Ranunculus, Viola, Hypericum, Clematis, &c." Dealing with the giant Rose, he says:--"Only two species of Rosa were seen, and both were new. The beautiful R. gigantea is particularly conspicuous, climbing over the tall forest trees, from the tops of which the long pendulous branches, covered with very large, white flowers, hang down in rich profusion. This Rose, which has larger flowers probably than any other wild species, is seen from* a *considerable distance in the jungle, reminding one more of a huge Clematis than of a rose... It is only locally abundant, chiefly in dark shady valleys. The other rose referred to was R. collettiana, which, I believe, is not yet in cultivation.*

C.P. Raffill. "

This completes the story of the discovery and flowering of *R. gigantea.*

In the Crépin Herbarium, in Brussels, there are several specimens of the rose to be seen, including the following:

1st sheet: 'The original Collett specimen 1888. collected in the Shan Hills between Burma and Slam.'

2nd sheet: 'Rosa khongui(?) Munipur 6000 feet. April 1882. Colleced by G. Watt'

3rd sheet: Abbe Delavayi found *R. giganlea* in Yunnan, 1890 March. Pinkish white.

M. François Crépin was also closely associated with the other most distinctive Indian rose species, R. clinophylla. More on this in the next rose annual.

Indian rose lovers should indeed be grateful to the Director of the Crépin Herbarium, in the National Botanic Garden, (NBG) Brussels, Belgium, for the careful preservation of these important historical records, of such great interest to us. We are most grateful to Mr Ivan Louette, our Belgian friend who took us to the NBG and introduced us to the people in charge: and to the authorities at the National Botanic Garden for their ready assistance in tracing the records reproduced in this article when we visited the Herbarium in June 2003.

We are grateful to Mr Gene Waering for his assistance, and to Mr Brent C.

Dickerson and Mr Pierre Rutten for their translation of M. Crépin's original papers from French to English.

To conclude on a personal note, Ivan Louette, who was escorting us in the N.B.G., told us, when we were in the elevator going up from the Herbarium, that he was taking us to meet a most important person. I hastily patted my hair (or what is left of it) in place, but seeing this, Ivan assured me that the V.I. P. was not one for formalities. When the elevator stopped and we got out, Ivan led us, to our surprise, to the striking marble bust of François Crépin!! (see photograph). A practical joke, but a most appropriate way to end our visit to the Herbarium.

Copies of the original articles:

1. Bulletin de la Société royale de botanique de Belgique, 1889, pgs. 11 - 14
2. The Gardeners' chronicle: a weekly illustrated journal of horticulture and allied subjects, 1905, pgs. 136 + 144/5
3. The Gardeners' chronicle: a weekly illustrated journal of horticulture and allied subjects, 1912, pgs. 314, 315

M. Crépin lit la notice suivante :

NOUVELLES OBSERVATIONS SUR LE ROSA GIGANTEA COLLETT,

par François Crépin.

Depuis que j'ai décrit le *Rosa gigantea* Collett[1], j'ai pu examiner de nouveaux matériaux de cette espèce qui me permettent de compléter ma première description. En outre, j'ai reçu de M. le général Collett quelques renseignements utiles à faire connaître.

Dans une lettre qu'il m'adressait de Meiktites (Haut Burma), à la date du 29 juillet dernier, ce botaniste m'informe qu'il a trouvé le *R. gigantea* près des villages de Myromati, Pwehta, Kalow, Koni, etc., situés dans le district de Myelat (Haut Burma), vers la latitude de 20° 40′ N. et la longitude de 96° 30 E., à une altitude entre 4000 et 5000 pieds. L'espèce n'est pas commune, mais elle n'est toutefois pas rare, puisqu'elle a été observée, par mon correspondant, à 14 ou 15 endroits différents dans le district de Myelat. Ses tiges, qui peuvent atteindre jusque 30 et même 40 pieds de longueur, grimpent sur les rochers, sur les arbres et dans les buissons.

Dans la région des Shan Hills, où croit le *R. gigantea*, les gelées sont à peu près inconnues, ce qui nous indique assez que cette Rose devra être, dans l'Europe centrale,

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(1) Voyez *Compte-rendu de la séance du 2 juillet* 1888 *de la Société royale de botanique de Belgique*, Bull., t. XXVII, 2e partie, pp. 146-150.

plus ou moins protégée contre le froid de nos hivers, ou être cultivée dans des endroits bien abrités.

La lettre de M. Collett était accompagnée d'un échantillon défleuri couronné par un réceptacle déjà fortement grossi (12 mill. de diamètre). Ce réceptacle, à parois épaisses, était d'une extrême dureté, quoiqu'il eut été recueilli au mois d'avril (1888); il ne renfermait encore que de très jeunes ovaires.

L'échantillon, constitué d'un simple ramuscule, est complètement inerme comme ceux que j'avais antérieurement décrits.

J'avais demandé à M. le général Collett si le *R. gigantea* est toujours à inflorescence uniflore et si la tige est armée d'aiguillons. Il me répondit qu'il y a certainement des aiguillons et que les inflorescences sont uniflores, sans toutefois pouvoir assurer qu'elles le soient toujours.

Au mois de novembre dernier, j'ai eu l'occasion, bien inattendue assûrément, d'enrichir mes connaissances sur la nouvelle espèce du Burma. Dans un envoi de Roses à déterminer que me faisait le Musée botanique de Berlin, se trouvent 6 spécimens d'une espèce recueillie par M. G. Watt accompagnés de l'étiquette suivante : « 6320. Rosa.... Khongui. 6000ft. April 1882 ». L'un des échantillons porte, attaché à un brin de fil, une petite étiquette portant : « Field. n° 6404. Herb. G. Watt ». Ces 6 échantillons ne sont rien autre que le *R. gigantea !* Les 9 inflorescences de ceux-ci sont toutes uniflores, chacune d'elles accompagnée à sa base d'une feuille 1-3-5-foliolée. Les axes des ramuscules sont ordinairement inermes, présentant rarement de 1 à 3 petits aiguillons crochus. Sur un robuste fragment de tige, se trouvent des aiguillons assez nombreux, épars, courts, épais et fortement

crochus, rappelant plus ou moins ceux du *R. arvensis* Huds.

Soupçonnant que l'herbier de Kew pouvait renfermer des échantillons du même collecteur, je m'empressai d'écrire à M. Nicholson en le priant de bien vouloir faire des recherches. Celui-ci, avec son obligeance habituelle, me répondit immédiatement que dans les collections de Kew, il existe deux feuilles d'herbier de ce type : l'une avec l'étiquette : April 7th 1882 at Khongui, l'autre avec l'étiquette : At Sirohfurar on April 11, 1882, 5-6000 ft.

Cette Rose avait reçu le nom manuscrit de *Rosa macrocarpa* Watt. Sur la première feuille, l'une des inflorescences est 3-flore, les autres sont uniflores; sur la seconde feuille, toutes les inflorescences sont uniflores.

Le nom de *macrocarpa* est probablement justifié par la grosseur du fruit de cette espèce. Dans l'herbier du Musée de Berlin, il y a deux fruits dont l'aspect fait supposer qu'ils étaient d'une année antérieure à la récolte des spécimens florifères. Ils sont largement ovoïdes et mesurent de 15 à 18 mill. de diamètre. Les sépales, qui paraissent être réfléchis après l'anthèse et pendant la maturation, avaient disparu(1).

La découverte de M. G. Watt élargit considérablement

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(1) Pendant l'impression de cette notice, j'ai reçu de M. G. King, directeur du Jardin botanique de Calcutta, deux fruits mûrs du *R. gigantea*, avec 36 akènes, qui ont été semés. Ces fruits sont gros, pyriformes, à peu près aussi larges que longs (23 à 24 milimètres), à parois très épaisses, dont la chair, en se desséchant, devient très dure et cornée, à cavité ovarienne relativement très petite. Les sépales sont réfléchis et paraissent persistants. Les akènes sont très gros ; ils mesurent 6 à 7 mill. de longeur sur 5 à 7 mill. de largeur.

(*Note ajoutée pendant l'impression.*)

l'aire de dispersion du *R. gigantea*, puisque la province de Munipur ou Manipur, où ce collecteur l'a observé, est à plus de 5° N. des Shan Hills du Burma. Peut-être cette remarquable espèce s'étend-elle vers l'est jusque dans les provinces sudo-occidentales de la Chine.

Avec ces nouveaux éléments d'appréciation, on peut, dès maintenant, considérer le *R. gigantea* comme étant bien distinct du *R. indica*. Il reste à voir si l'on peut comprendre cette nouvelle espèce dans la section des *Indicae* telle que je l'ai entendue jusqu'ici. Je ne me crois pas être encore en mesure de prendre une décision à cet égard.

Dans ma première notice sur le *R. gigantea*, j'avais comparé cette espèce à la Rose cultivée sous le nom de *Fortune's Double Yellow*. Aujourd'hui, l'affinité de ces deux Roses me paraît plus étroite et je ne serais pas très surpris si l'avenir venait nous autoriser à réunir ces deux formes sous le même nom spécifique (1).

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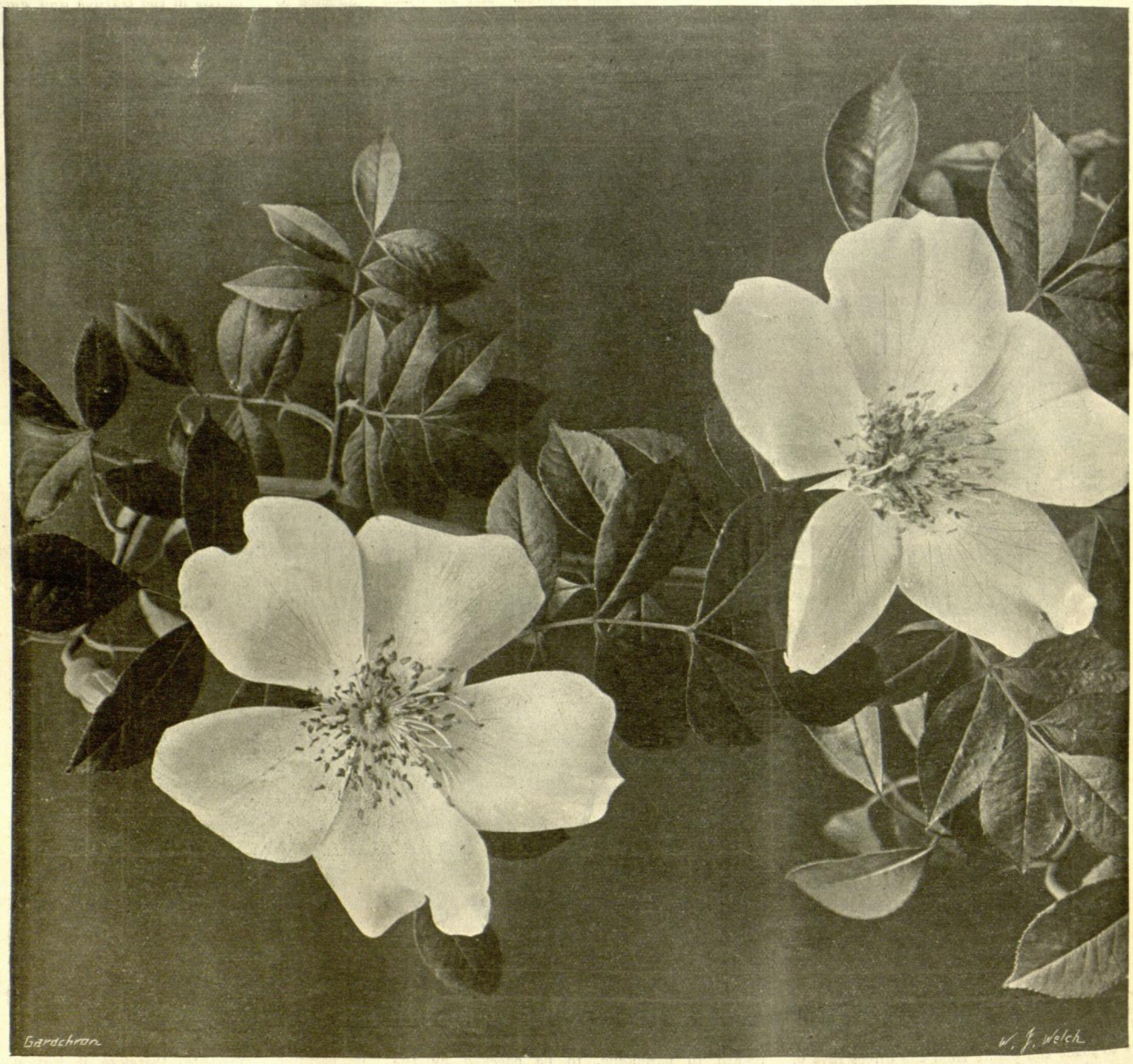
(1) Dans un article intitulé : *Rose jaune de Fortune*, publiée dans le *Journal des Roses*, année 1882, pages 173-176, Germain de Saint-Pierre considère la *Fortune's Double Yellow* comme une véritable espèce, à laquelle il rapporte la *Beauty of Glazenwood* à titre de synonyme. Il propose de lui donner le nom de *Rosa amabilis*. Il est à remarquer que ce nom d'*amabilis* avait déjà été appliqué par Wrede à une Rose cultivée, devenue plus tard une variété du *R. perfecta* Wrede; M. Gandoger, dans ses *Tabulae rhodologicae*, 1881, p. 203, n° 2838, a également donné le nom d'*amabilis* à une forme du groupe du *R. canina*.

ROSA GIGANTEA.

The flowering of this remarkable Rose at Kew in the spring of 1910 (see *Gardeners' Chronicle* June 4, 1910, p. 370) was an event which had been looked forward to ever since its introduction into cultivation by General Sir Henry Collett, in 1889. At the present time it is again in flower in the Himalayan wing of the Temperate House, where it is planted out in a border amongst Himalayan and other tender Rhododendrons, and has climbed high up amongst the rafters and iron girders of the roof to a height of about 40 feet. At such a distance from the ground the beauty of its flowers cannot be perceived, but a spray is reproduced in fig. 156 showing the flowers, which are from 4 to 5 inches in diameter, smaller than natural size. In the bud stage the colour is a rich copper, similar to W. Allen Richardson; this shade, however, fades rapidly as the bloom expands until, when it has been open a day or two, the colour becomes ivory-white. The stamens are a bright yellow. The calyx lobes measure an inch in length, but there are specimens in the Kew Herbarium in which the lobes are even longer than this. A remarkable feature of the plant is its extraordinary vigour and the enormous amount of growth which it has made in former years. Some of the original seedlings raised from seed collected by General Collett in the Shan States were planted in several of the large houses at Kew in borders of prepared soil, and quickly made large specimens. Some of the shoots grew as much as 30 feet long. A large specimen was grown for 10 years or so in the Succulent House, where it grew rampantly. During the summer and autumn the lights on the roof were let down and the plant exposed to all the sun and light possible, being afterwards tied down close to the glass and subjected to the dry conditions of the other inmates of this house during the winter. Other specimens were grown in the main building of the Temperate House, as well as in the Mexican and Himalayan wings. The temperature of each of the houses except that of the Himalayan wing, was sufficiently high to cause the plants to continue in growth all the year round, but in the Himalayan wing the plant obtained a rest of a few months during winter. The temperature of this house is never allowed to fall more than a few degrees below freezing point. When originally planted in this house in 1899 the plant grew rapidly in the rather stiff loamy soil of the border. The soil, however, did not suit many of the other occupants of the house, and in 1906 it was replaced with a sandy peat. This has had a marked effect upon the rate of growth of the Rose, the stems being much more slender and the growth more twiggy generally. It is to the change of soil that I attribute the flowering of the Rose, and not the the hot summer of last year, for it produced flowers last year after the wet and cold summer of 1910. Cultivators would do well to try the effect of planting this Rose in a poor soil or where the roots may be restricted. They should also try the effect of a low temperature during the winter.



[*Photograph by C. P. Raffill.*

FIG. 156.—ROSA GIGANTEA, FROM A PLANT IN FLOWER IN KEW GARDENS: FLOWERS COPPERY-RED, PASSING TO WHITE.

A full account of the discovery and history of Rosa gigantea is given in the *Gardeners' Chronicle*, March 4, 1905, p. 136. The figure in the *Botanical Magazine*, tab. 7972, does not convey any adequate idea of the beauty of the flowers, which are depicted as being of a dirty, greenish white.

The plant was originally discovered by Dr. Watt in 1882 during the Government demarcation survey in Manipur at altitudes of 5-6,000 feet. It was later discovered by General Sir Henry Collett in the Shan Hills, Upper Burmah. It has since been collected by Dr. Henry, Mr. W. Hancock, and recently by Mr. George Forrest in North-West Yunnan, China. Mr. Forrest has discovered specimens with rose-coloured flowers, which have been described as variety erubescens by Focke in *Notes of the Royal Botanic Gardens, Edinburgh*, v., p. 68. The variety was found in shady situations in the Lang-kong, Hocking, and Lichiang valleys, and is described by Mr. Forrest as "a semi-scandent scrub of 10-20 feet, with rose-pink, fragrant flowers." Whilst this plant closely resembles Rosa gigantea in many respects, notably in its calyx lobes and in several minor details, I am of the opinion that it is distinct. The fruit and seed, which are important characters in determining Roses, are wanting in the herbarium material of Focke's plant, and I have little doubt but that, when these are obtained, the plant will prove to be distinct.

An interesting account is given in the *Journal* of the Linnean Society, xxviii., p. 6, by General Collett, of the conditions under which he found R. gigantea. Dealing with the flora of the district where it grows, he says that it "was found on a plateau, at altitudes of 4-5,000 feet, where the traveller was at once struck with the temperate character of the flora. The trees were mostly Oaks and Pines, whilst the herbaceous plants were represented by species of Ranunculus, Viola, Hypericum, Clematis, &c." Dealing with the giant Rose, he says:—"Only two species of Rosa were seen, and both were new. The beautiful R. gigantea is particularly conspicuous, climbing over the tall forest trees, from the tops of which the long, pendulous branches, covered with very large, white flowers, hang down in rich profusion. This Rose, which has larger flowers probably than any other wild species, is seen from a considerable distance in the jungle, reminding one more of a large Clematis than of a Rose. . . . It is only locally abundant, chiefly in dark, shady valleys." The other Rose referred to was R. Collettiana, which, I believe, is not yet in cultivation. *C. P. Raffill.*

AN ITALIAN GARDEN.

On a projecting spur of the lower Fiesole Hills, some two miles east of Florence, stands the old Castello di Poggio Gherardo, once a mediæval fortress, now a modern residence—so far as its interior is concerned—and surrounded by a very charming garden. The estate was purchased in 1889 by the late H. J. Ross, Esq., an enthusiastic horticulturist, who had spent many of his early days in the East, and who made it the home of one of the finest collections of Orchids that has ever been brought together in Italy. This collection is in part maintained by his widow, Mrs. H. J. Ross. The place was graphically described a few years ago by a niece of Mr. Ross. "Animals and plants all thrive at Poggio Gherardo in a remarkable way, because much love is lavished on everything within its walls. The Wistaria grows at such a pace that it threatens to pull down the terrace staircase; the Camphor tree and Eucalyptus battle valiantly through severe winters, and rare southern plants are enticed to show their bloom. As for Roses, they tumble in great cascades over the walls above the carriage drive, mixing their pink and white blossoms with the yellow Banksia and pale or dark-blue Irises. Away from the wall the monthly Roses form thick hedges winding up the hill towards the house, near where they merge into a spinney of Pines, Chestnuts, Cypresses, Bays, Laurels, Vines, and Arbutus. Above it all arises the square crenelated fortress villa, which withstood the arms of Hawkwood and his Pisan soldiers, survived even earthquakes, and after more than 500 years still stands proudly on a spur of the Fiesole hills full in sight of the Arno Valley."

The house is approached through a grove of Vines and Olives by a long, steep, winding drive, bordered with hedges of Roses, which, in the first fortnight of May, when the writer had the pleasure of staying there for some days, on the occasion of the International Horticultural Exhibition at Florence, were covered with thousands of pink blossoms. Roses luxuriate everywhere; yellow, white and red, single and double, on pergolas and arches, fences, tree trunks, and walls, forming a wealth of floral tracery, and the double white and yellow Banksians recalled our own Crimson Ramblers in their wealth of flowers. One must visit the sunny South to see the Banksian Roses in perfection. Lizards abound; one sees them everywhere in the sunshine, where the Caper plant luxuriates in the fissures of the old walls, on stony banks and amongst the Roses, whence they emerge to stalk the flies when one remains quiet for a few moments.

Among many familiar scenes there is much that is novel. Large blue bees flit about amongst the flowers; blue, red, and yellow dragon-flies, and many kinds of butterflies—white, brimstone, deep yellow, blue, and red—impart a gaiety to the scene, while the beautiful swallow-tail butterfly floating gracefully in the sunshine furnished a sight to be remembered. And in the evening, when the garden is cool and delightful after the burning sunshine, the place was harmonious with nightingales—indeed, one may both hear and see them in the day-time in the adjoining woods. The fire-flies, again, afforded a surprise. On a May evening, a soft flash was noticed that for a moment recalled the flash of an electric wire. But there were no wires, and quickly came a second flash, which left no doubt of the cause. Soon there were dozens, and during the next few nights, after which the writer bade them a regretful farewell, the groves were lighted as by myriads of fairy lamps, not stationary, as our own glow-worms, but flashing everywhere, and affording a sight never to be forgotten.

The situation slopes to the south, in full exposure to the sunshine, and many plants thrive in the open which in this country require to be grown indoors. One of the first things noticed was the Lemon trees, planted in large tubs, and bearing fruits in various stages, as well as flowers. They are, however, brought inside for protection during the winter, as is usually practised in this part of Italy, for the proximity of the Apennines renders the climate cold in winter. Near by were two Kaki trees in bud; the larger is an immense tree which bore 450 fruits the previous year. The fruits are gathered and put in a fairly warm place to ripen, when they are delicious, as I have since had the opportunity of proving. There is also a large tree of Eucalyptus globulus in perfect health, and an immense Camphor tree (Cinnamomum Camphora), which is one of the economic trees of Southern Italy. Melia Azedarach is another large tree, bearing panicles of purple flowers and numbers of old fruits. The specimen is only 16 years old, and was 5 feet high when planted, so rapidly does everything grow in this genial climate. Paulonia imperialis is a large tree, and purple with its beautiful blossoms. Nerium Oleander forms an immense old bush, and the Japanese Loquat fruits every year. There are many fine old specimens of Chamærops Fortunei, both male and female, producing large panicles of flowers.

Magnolias thrive, and a number of Azaleas of various kinds and colours were covered with flowers, while a few Rhododendrons were also in bloom. Numerous plants of Pæonia Moutan are grown. The Wistarias, both blue and white, flower in the greatest profusion, and with them on the house is a fine plant of Trachelospermum jasminoides, already in bud, and promising a fine display of deliciously fragrant white flowers. Solanum jasminoides covered an old arbour with a profusion of flowers. Sweet Peas were flowering in abundance, and many other plants, more or less familiar at home, are grown very successfully. I have already referred to the Roses: there is a fine plant of Marechal Niel, which, from the size of the stem, must be many years old; it flowers profusely. The Austrian Briar looked a picture, with its peculiar coppery red and yellow flowers on the same bush, and the Persian double-yellow Rose was a mass of blossoms. There is also a large single red Rose which blooms most profusely; its name is not known, but it is said to be used as a stock in Lombardy.

The Orchids are contained in five large houses, with various stove plants, and consist almost entirely of warm-growing kinds, for cool Orchids cannot be grown successfully in such a climate. Cypripediums, Vandas, and others of the Aërides group, Dendrobiums, Cattleyas and allies, Cœlogyne cristata, Stauropsis Batemaniana, Sobralia macrantha, and numerous others are grown successfully. Plants of Cœlogyne Dayana were wreathed in flowers. Many hybrid Cypripediums have been raised. A detailed account of the collection of Orchids was given in *Orchid Review*, 1911, pp. 202-205. In a wood behind the house numerous handsome plants of Orchis purpurea were in bloom; they are indigenous, and have probably grown there from time immemorial. The place must have been in the possession of the Gherardo family for hundreds of years, for there is an old monument erected to the memory of Bartolommeo di Gherardo Gherardi, magistrate of the Republic of Florence from 1390 to 1409.

The Olive is grown largely on the hill-sides; there are trees in the district which are hundreds of years old, and in some cases the trunks divide by the decay of the centre, forming what at first looks like a group of separate trees. They are pruned to what may be termed cup shape, the centres being left hollow, so as to admit all the sun, light, and air possible. The Olive is harvested in November and December, and the Olive oil produced by Mrs. Ross has become celebrated for its quality and purity. The vines are trained on the Maple, because this tree will submit to the severest pruning, and thus admit the maximum of light and air which are so essential to the proper ripening of the Grapes. In Lombardy the Elm is largely used for this purpose. It may be added that the prunings from the Vine, Olive, and Maple furnish the firewood of the peasantry in winter.

By the side of the drive is a row of the purple-leaved Prunus Pissardii, which forms a handsome tree and fruits freely, and the fruit is excellent for stewing, so that the tree is interesting both from an ornamental and a utilitarian standpoint. *R. A. R.*

FLORISTS' FLOWERS.

SWEET PEA NOVELTIES AT THE R.H.S. SHOW.

At the meeting of the Royal Horticultural Society, on April 30 last, two fine collections of Sweet Peas were staged, both showing skilful culture under glass. Mr. C. W. Breadmore, Winchester, had, in Princess Mary, a novelty with rather a sensational combination of colouring, mauve and blue, reminding one somewhat of Afterglow, without that variety's tendency to doubling. Aggie Elder is a distinct new shade of Rose, a flower of good form and substance. Messrs. Dobbie & Co., Edinburgh, seem to have adopted a new method of naming, as three fine novelties on their stand were named respectively Scarlet (very brilliant), Cream, and Lavender (a true, pure lavender, without any mauve shading). A bunch which attracted much notice was labelled Lavender George Herbert—Fixed Stock. This will, if the best type of it is really fixed, be a great favourite with exhibitors, who know its value. *Visitor.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, MAR. 4 { Société Française d'Horticulture de Londres Meeting.

SALES FOR THE WEEK.

MONDAY NEXT—
Herbaceous Plants, Perennials, Azaleas, Roses, Liliums, &c., at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.

WEDNESDAY, NEXT—
Palms, Plants, Azaleas, Rhododendrons, Liliums, Roses, Fruit Trees, Border Plants, &c , at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12 o'clock.—Cases of Lilies from Japan, Azaleas, Roses, &c., at Stevens' Rooms. at 12.30 P.M.

FRIDAY NEXT—
Hardy and Herbaceous Plants, Roses, Azaleas, North American Plants, Liliums, &c., at 67 and 68, Cheapside, E.C , by Protheroe & Morris, at 12.—Imported and Established Orchids, at 67 and 68, Cheapside, E.C., by Protheroe & Morris, at 12.30.

(For further particulars see our Advertisement columns.)

AVERAGE TEMPERATURE for the ensuing week, deduced from observations of Forty-three Years at Chiswick —41·4°.

ACTUAL TEMPERATURES :—
LONDON.—*Wednesday, March* 1 (6 P.M.): Max. 44°; Min. 35°.
Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London.—*Thursday, March* 2 (10 A.M.): Bar., 29·9; Temp., 42°. Weather—dull, with occasional sunshine.
PROVINCES.—*Wednesday, March* 1 (6 P.M.): Max. 43°, W. Coast of England; Min. 40°, Scarborough.

Rosa gigantea. *(See Supplementary Illustration.)*

IN 1889 we received from Sir GEORGE KING, then the Director of the Calcutta Botanic Garden, some seeds of this noble Rose, which were distributed among those likely to succeed in its culture. Probably seeds were distributed from other sources also. Mr. GEORGE PAUL informs us that he raised seedlings from this Rose, but that they damped off; and the same fate befell others raised by Mr. LEACH. Some disappointment has been felt at the circumstance that while the Rose grows with the greatest freedom, as at Kew and elsewhere, flowers have only very rarely been produced. Eventually in 1898 Lord BROUGHAM had the satisfaction of flowering the plant in his garden at Cannes. In his "List of Roses now in cultivation at the Château Eléonore at Cannes," published in 1898, his lordship mentions the plant as having flowered in his garden for the first time in Europe last month [April, 1898, presumably]. He gives a photographic representation of it, and describes it as—

"A splendid plant, making growths of 40 feet or more, with rambling branches armed with irregular prickles of moderate size, often in pairs at base of leaves, which are about 3 inches long and glabrous. The flowers are solitary, about 6 inches in diameter—which size will not unlikely be increased when the plant is older and stronger, of a golden-white with yellow centre containing an unusual quantity of pollen. Petals large, broad, imbricated; disc large, styles much exserted, free, villous; stamens long. The most desirable and by far the finest single Rose I have ever seen. It does not seem to be very hardy and is subject to mildew [as it is also here]. The bud is long, larger, but very closely resembles that of Madame Marie Lavallée, and of a pure gold colour. This Rose when in flower should obviously be shaded, as the sun soon extracts the gold from the blooms, leaving behind a substitute of dirty white. At a short distance the flowers bear a close resemblance to a Clematis."

Mr. F. CANT, of Colchester, also succeeded in flowering it, but with such indifferent results that he discarded the Rose as useless for his purposes.

Then came Mr. LEACH, the gardener to the Duke of NORTHUMBERLAND at Albury, Surrey, who succeeded in 1903 in inducing the plant to produce two flowers, the first of which was just on 6 inches across. In February, 1904, the same specimen produced about a dozen flowers, and this year Mr. LEACH had the satisfaction of seeing twenty-eight blooms on his plant, some of which were exhibited at the Royal Horticultural Society on Tuesday last, and secured for the exhibitor the award of a Cultural Commendation and a Botanical Certificate. Mr. LEACH cultivates the plant in a Peach-house, and the shoots are trained down on the wires.

The colour of the flowers exhibited was ivory-white, and the foliage showed one more pair of leaflets to each leaf than is represented in our illustration. A good figure is given in the *Botanical Magazine*, t. 7972 (September, 1904), where the flowers are shown of a pale-primrose-yellow colour, whilst the bud has the golden colour mentioned in Lord BROUGHAM'S description. There is no doubt whatever from the glowing descriptions given by travellers, and such evidence as we now have, that this is indeed a grand Rose and amply deserved the award made to it. In due time we doubt not we shall discover some means of inducing the plant to flower more freely. Up to the present, as Mr. HEMSLEY says, "every possible method of propagation has been tried ineffectually in order to obtain flowers more freely in this country, yet it flowers profusely on the Riviera."

Sir GEORGE WATT was the first to discover this Rose (in Manipur), but the name R. gigantea was first published by the late Sir HENRY COLLETT, who found the plant in the Shan Hills, Upper Burmah. More recently it has been found in South-Western China by Dr. HENRY and others. We may therefore expect considerable variation, whilst the colour of the flowers, about which there has been a diversity of statement, would naturally differ according to varying conditions and diverse stages of growth. Sir GEORGE WATT mentions that the fruit is edible, as large as a small Apple, and that it is sold in the bazaars of Manipur State.

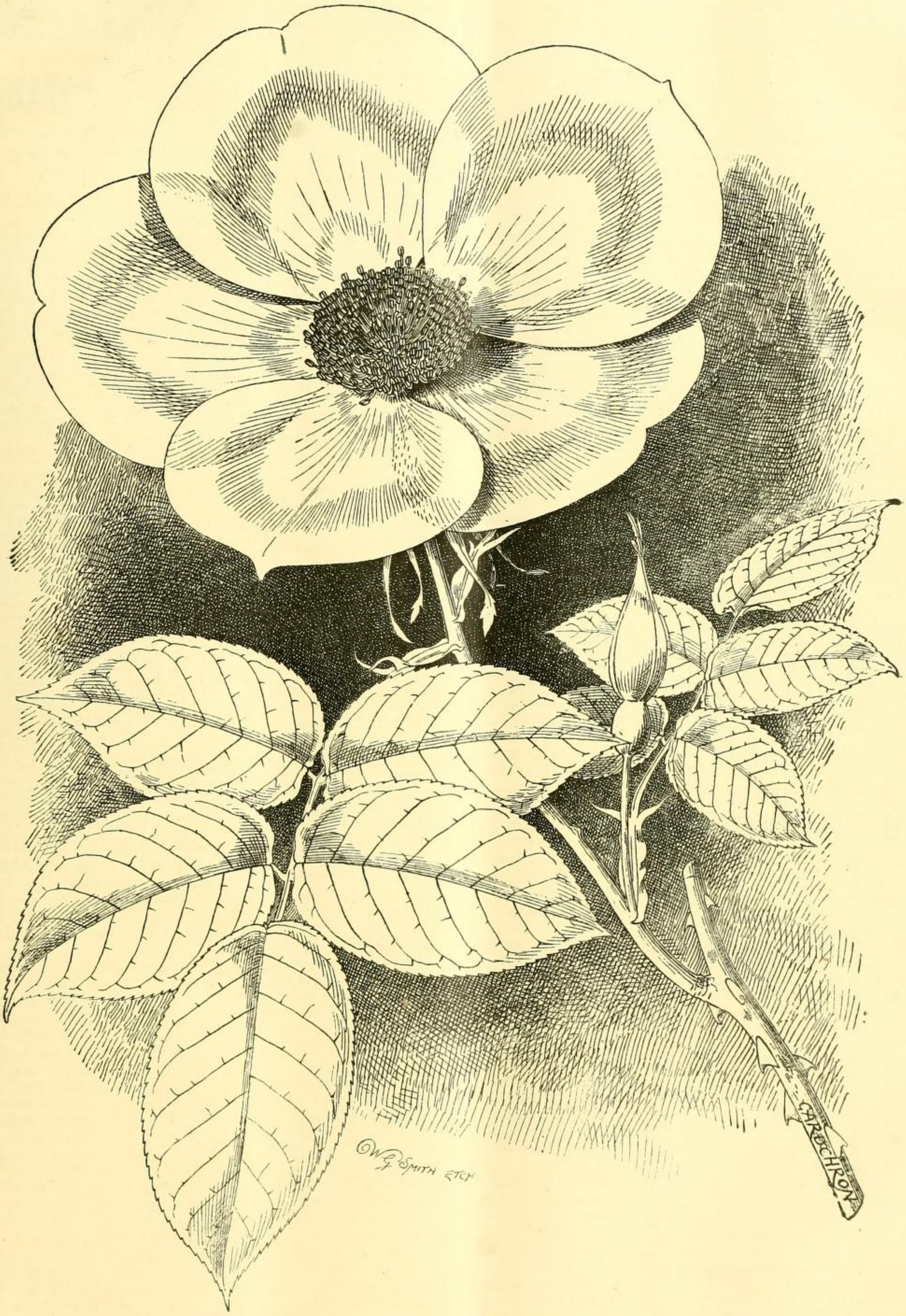
Mr. FITZHERBERT, in our own columns, May 2, 1903, p. 278, mentions the species as hardy in South Devon; and we have heard of it as grown on an outside wall at Reigate, Surrey.

RHODODENDRONS AT SINGLETON, NEAR SWANSEA, AND AT PENLLERGAER.—Some very fine specimens of Himalayan Rhododendrons may be seen in the Singleton Abbey grounds, belonging to Lord SWANSEA. The specimen shown in fig. 57 is a natural hybrid between R. Falconeri and R. niveum, raised from seed sent to Singleton by Colonel SYKES, who commenced his first expedition to the Himalayas in about the year 1848. The tree is 30 feet high, and 20 feet in diameter across the branches. At the time our photograph was taken the plant had 200 heads of flowers, which in size are very similar to those of R. Falconeri, but they are tinged with lilac colour when they first open, passing afterwards to white or nearly white. Mr. JAMES HARRIS, whose photograph appears in the illustration, was gardener at Singleton for many years, and has now a nursery at Blackpill in the immediate neighbourhood. Among the most notable Rhododendrons at Singleton is R. barbatum, 37 feet high and 15 feet through. This tree is wonderful and its effect handsome, even in winter, but when in flower the sight must be one worth a long journey to see. It generally produces about 400 heads of flowers. Of R. Falconeri there is one specimen 28 feet high and 15 feet through, which has produced on one or more occasions as many as 200 heads of flowers. We had the pleasure of visiting Singleton in January, and these marvellous Rhododendrons, so large that their individual characters are well developed, provided us with an unusual treat, the foliage of R. barbatum and other species being so handsome that the absence of flowers was of less consequence than one would have expected. There is also a good Pinetum at Singleton, which contains many fine specimens, including Tsuga Mertensiana (Albertiana), 110 feet high. Lord SWANSEA having resided abroad for the past three years, Singleton is only inhabited by caretakers, but we are glad to find that although little brushing up and such-like work is done in the gardens, the trees are looked after by Mr. HARRIS, who is still retained for this purpose by Lord SWANSEA. The extraordinary climate at Singleton is shown by the fact that we were able to gather beautiful flowers of Grevillea rosmarinifolia on January 14 from a plant growing on the Castle walls exposed to the weather. From Singleton we drove to Penllergaer, the residence of Sir JOHN T. LLEWELYN, Bt. In the beautiful and extensive gardens there Sir JOHN has an exceedingly rich collection of Rhododendrons, including most of the Himalayan species that are hardy in South Wales. The natural undulations at Penllergaer, the immense lake and other features, are remarkable, and the spot is an ideal one for the cultivation of Rhodendrons and Bamboos, which Sir JOHN has made his special favourites. The magnificent Bamboos are a revelation to those who have never seen the effect they are capable of producing in favourable localities, where care is given to the selection of positions in which the plants will have the benefit of shelter. Mr. WARMINGTON, the gardener at Penllergaer, has been at the place so long he has seen most of the rarer plants grow up, and evidently shares the enthusiasm his employer has for their cultivation.

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS FOR SCHOOL TEACHERS, 1905.—The Royal Horticultural Society will hold an examination in Cottage and Allotment Gardening on Wednesday, April 5, 1905. This examination is intended for, and will be confined to, Elementary and Technical School Teachers. The general conduct of the examination will be on the same lines as that of the more general examination, except in obvious points to which they would not apply. Intending candidates are requested to send in their names early in March. A Silver-gilt Flora Medal will be awarded to the candidate gaining the highest number of marks, and each candidate will receive a Certificate of the class in which he has passed.

—— GENERAL EXAMINATION.—The Society's Annual Examination in the Principles and Practice of Horticulture will be held on Wednesday, April 12, 1905. A copy of the syllabus, covering both examinations, will be sent to any person on receipt of a stamped and directed envelope. Questions set at the Royal Horticultural Society's Examinations, 1893—1904, may also be obtained at the Society's Offices, Vincent Square, Westminster, price 1*s.* 6*d.*

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The annual general meeting of this Society will be held at the Caledonian Hotel, Adelphi Terrace, Strand, W.C., on Monday, March 13, 1905, at 8 P.M. Mr. W. P. WRIGHT will preside.



ROSA GIGANTEA: FLOWERS IVORY-WHITE.

Awarded a Botanical Certificate and Cultural Commendation by the Floral Committee of the Royal Horticultural Society on Tuesday last, when flowers were shown from Albury Park Gardens, Guildford. (See pp. 136 and 140.)

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Indian Rose Annual 2005

Francois Crepin and the Discovery of *rosa gigantea*

M.S.Viraraghavan

It was the 2nd of June 1888 when M. Francois Crepin received the first specimen of *R. gigantea* collected by General Sir Henry Collett in Burma (now called Myanmar). Crepin's observations are best detailed in his own words:

Extract of the Report of the July 2, 1888 Session of the Belgian Royal Society of Botany Bulletin, Volume XXVII, 2nd part....

"DESCRIPTION OF NEW ASIATIC ROSE, By Francois Crepin, Director of the National Botanical Garden, Brussels.

Last June 2nd, Mr David Prain, Conservator of the Seebpore Botanical Garden, near Calcutta, sent me four beautiful flowering branchlets of a rose collected by General Collett in the Shan Hills between the Kingdom of Burma and the Kingdom of Siam. Mr Prain, in a letter accompanying the specimens, said that Mr. Collett himself described this rose as a magnificent species, sprawling over rocks and climbing into trees, having a pure white flower 5 inches in diameter.

If the species is new, Mr Collett himself wishes to give it the name: Rosa gigantea. To judge by the specimens I received, this rose is truly magnificent and it appears to be very vigorous; its corolla is certainly the largest one to be found among single rose flowers.

It is known that, in R. Indica Auct., the inflorescence is nearly always multi-flowered and provided with bracts. So if one assumes that R.gigantea ordinarily has a multi-flowered inflorescence and that the single is the exception, one would probably be right to classify it in the Indicae section.

It remains to be seen if the species is remontant as is R. Indica.

While awaiting additional information, I will give a description of this rose that admits it provisionally as a species.

Hillview, Fernhill Road, Kodaikanal - 624 101, Tamil Nadu

Rosa gigantea Collett Mss. (Sect. Indicae?)

Unifloral inflorescence, usually without bracts, trifoliate leaves; thick smooth pedicel; ovary large, ovoid, attentuated towards the two extremities, glaucescent, smooth; flower bud large, ovoid elongate (4 cms to sepals' end); sepals very long and entire, tapering from the base to the summit, slightly dilated at the tip, whitish pubescent on the internal face and along the sides, which have fine glands reflexing at anthesis. One completely spread out corolla measured 12 centimetres in diameter!

This rose is unpublished and appears to constitute a distinct species. In my opinion it should be classified as being closely related to R. indica Auct. non L. (1). Does it belong in the section that I named Indicae? This is quite possible but I would need supplemental information to be able to decide this question.

Whatever the case, General Collett's discovery is worth bringing to the attention of scientists and rose fanciers (amateurs). If any one succeeds in introducing R. gigantea into Europe, and in growing it, it will enrich choice collections by its enormous corolla and beautiful foliage; moreover it will be, by crossing it with other species, the source of hybrid products probably superior to those of R. indica."

It is evident from the above that M. Francois Crepin was no mere taxonomist. He was obviously a lover of roses, which is far more important from the rose fancier's point of view. Subsequently, the question whether R. gigantea was indeed a new species and the fact that it was also to be found in India (Manipur) was confirmed.

Let us again reproduce Crepin's own words from the Extract of the Report of the January 12, 1889 Session of the Belgian Royal Society of Botany Bulletin, Volume XXVIII, 2nd part, para 14.

"NEW OBSERVATIONS ON ROSA GIGANTEA COLLETT"
by Francois Crepin

Since I first described Rosa gigantea Collett (1), I have been able to examine some new materials that allow me to complete the earlier description. Besides what I received from General Collett, I also obtained some pieces of information it would be useful to know.

(1) See Extract of the Report of the July 2nd 1888 Session of the Belgian Royal Society of Botany Bulletin, Vol. XXVII, 2nd para, Pgs 146-150.

In a letter to me which he wrote at Meiktites (High Burma) dated July 20th, the botanist informed me that he found R. gigantea in villages of Myromati, Pwehla, Kalow, Koni, etc., that are located in Myelat district (High Burma) latitude: N 20 '40' Longitude E 96'30', at an altitude between 4000 and 5000 feet. The species even if uncommon, is not rare, as it was observed by my correspondent in 14 or 15 different places in Myelat district. Its canes that may reach 30 and even 40 feet long, climb on rocks, trees and shrubs.

In the Shan Hills district where R. gigantea grows, frosts are almost unknown, suggesting that this rose should be at least in central Europe some what protected against our winter's frost, or grown in well sheltered places.

With Mr Collett's letter was a deflorate specimen crowned by a much swollen receptacle (diam:12mm). This thick walled receptacle was extremely hard although gathered in April (1888) and still contained very young ovaries.

The sample, composed only of a secondary branch is totally unarmed, as were the previously described ones.

Earlier, I had asked the General whether the R. gigantea inflorescence was uniflorous, and whether its stems are armed with prickles. He answered that indeed there are prickles, and that the inflorescences are uniflorous, but was unable to affirm that it was always so.

Last November, I had the unexpected opportunity to learn more about the new species from Burma. In a parcel of roses sent to me for identification by the Berlin Botanical Museum, there were six specimens of a species collected by Mr. G. Watt, with the following label: " 6320. Rosa... Khongui. 6000 ft. April 1882'. Attached to one sample is a small label reading: 'Field n'6404. Herb. G Watt'. These six samples are none other than R. gigantea'!-of which the nine inflorescences are all uniflorous, each one accompanied by a basal 1-3-5 foliate leaf. Floriferous branches are usually unarmed, or, rarely, bear 1to5 small hooked prickles. On a robust length of stem will sometimes be found strongly hooked, thick, short, dispersed and rather numerous prickles more or less reminiscent of those of R. arvensis Huds.

Suspecting that the Kew Herbarium might contain other samples from the same collector, I hastened writing to Mr Nicholson, asking him to undertake some searches. Obliging as usual, he responded

immediately that in Kew's collections were two herbarium sheets of this kind: one labelled 'April7th 1882 at Kongui', the other labelled 'At Sirohfurar on April 11th 1882, 6000ft'. In a handwritten note, this Rose is referred to as Rosa macrocarpa watt. On the first sheet, one inflorescence is triflorous the others are uniflorous; on the second sheet, all the inflorescenes are uniflorous.

The name macrocarpa is probably justified by this species' fruit size. In the Berlin Museum Herbarium, there are two fruits the look of which makes one think that they were one year old when the blooming samples were gathered. Broadly ovoid, their diameter measures from 15 to 18 mm. The sepals which were absent (in these materials) appear very reflexed post anthesis and during maturation.(1).

(1) While printing this notice, I received from the Calcutta Botanical Garden Director, M.G. King, two mature R. gigantea fruits with 30 achenes that were sown. These fruits are big, pyriform, about as wide as long (23to 24mm), walls very thick, the flesh of which when dessicated becomes very hard and horny, with the cavity of the ovary very small, relatively. Sepals reflexing and apparently persistent. Achenes very big:6.6 mm long by 5.7 mm wide. (Note added while in the press) Mr G Watt's discovery considerably widens R. gigantea's dispersion area since Munipur of Manipur province, where this collector observed it, is more than 5° N from Burma's Shan Hills. Perhaps this remarkable species spreads east to south western Chinese provinces."

The next stage was the flowering of this great rose in Europe, which is described in vivid detail in the English gardening journal "The Gardener's Chronicle" issues of March 4th 1905 and May 11th 1912 which are reproduced below.

The Gardeners' Chronicle, March 4th 1905

Rosa gigantea (see supplementary illustration)

"In 1889 we received from Sir George King then the Director of the Calcutta Botanic Garden, some seeds of this noble Rose, which were distributed among those likely to succeed in its culture. Probably seeds were distributed from other sources also. Mr. GEORGE PAUL informs us that he raised seedlings from this Rose, but that they damped off; and the same fate befell others raised by Mr. LEACH. Some disap-

puzzlement has been felt at the circumstance that while the Rose grows with the greatest freedom, as at Kew and elsewhere, flowers have only very rarely been produced. Eventually, in 1898 Lord BROUGHAM had the satisfaction of flowering the plants in his garden at Cannes. In his 'List of Roses now in cultivation at the Chateau Eleonore at Cannes' published in 1898, his lordship mentions the plant as having flowered in his garden for the first time in Europe last month (April 1898 presumbly). He gives a photographic representation of it and describes it as -

'A splendid plant, making growths of 40 feet or more, with rambling branches armed with irregular prickles of moderate size, often in pairs at base of leaves, which are about 3 inches long and glabrous. The flowers are solitary, about 6 inches in diameter. Which size will not unlikely be increased when the plant is older and stonger, of a golden-white with yellow centre containing an unusual quantity of pollen. Petals large, broad, imbricated; disc large, styles much exserted, free, villous; stamens long. The most desirable and by far the finest single Rose I have ever seen. It does not seem to be very hardy and is subject to mildew (as it is also here). The bud is long, larger, but very closely resembles that of Madame Marie Lavalee, and of a pure gold colour. This Rose when in flower should obviously be shaded, as the sun soon extracts the gold from the blooms, leaving behind a substitute of dirty white. At a short distance the flowers bear a close resemblance to a Clematis'.

Mr. F. CANT of Colchester, also succeeded in flowering it, but with such indifferent results that he discarded the Rose as useless for his purpose.

Then came Mr. LEACH, the gardener to the DUKE OF NORTHUMBERLAND at Albury, Surrey, who succeeded in 1903 in including the plant to produce two flowers, the first of which was just on 6 inches across. In February 1904, the same specimen produced about a dozen flowers and this year Mr. LEACH had the satisfaction of seeing 28 blooms on his plant, some of which were exhibited at the Royal Horticultural Society on Tuesday last, and secured for the exhibitor the award of a Cultural Commendation and a Botanical Certificate. Mr. LEACH cultivates the plant in a Peach-house, and the shoots are trained down on the wires.

The colour of the flowers exhibited was ivory-white, and the foliage showed one more pair of leaflets to each leaf than is represented in

our illustration. A good figure is given in the Botanical Magazine, t. 7972 (September 1904), where the flowers are shown of a pale-primrose-yellow colour, whilst the bud has the golden colour mentioned in LORD BROUGHAM'S description. There is no doubt whatever from the glowing descriptions given by travellers, and such evidence as we now have, that this is indeed a grand Rose, and amply deserved the award made to it. In due time we doubt not we shall discover some means of inducing the plant to flower more freely. Up to the present, as Mr. HEMSLEY says, 'every possible method of propagation has been tried ineffectually in order to obtain flowers more freely in this country. Yet it flowers profusely on the Rivera'.

Sir GEORGE WATT was the first to discover this Rose (in Manipur), but the name R.gigantea was first published by the late Sir HENRY COLLETT, who found the plant in the Shan Hills, Upper Burmah. More recently it has been found in South-Western China by Dr. HENRY and others. We may therefore expect considerable variation, whilst the colour of the flowers, about which there has been a diversity of statement, would naturally differ according to varying conditions and diverse stages of growth. Sir GEORGE WATT mentions that the fruit is edible, as large as a small Apple, and that it is sold in the bazaars of Manipur State.

Mr. FITZHERBERT, in our columns, May 2, 1903, p. 278, mentions the species as hardy in South Devon; and we have heard of it as grown on an outside wall at Reigate, Surrey".

THE GARDENERS' CHONICLE, May 11, 1912

ROSA GIGANTEA

"The flowering of this remarkable Rose at Kew in the spring of 1910 (see Gardeners Chronicle June 4, 1910, P. 370) was an event which had been looked forward to ever since its introduction into cultivation by General Sir Henry Collett, in 1889. At the present time it is again in flower in the Himalayan wing of the Temperate House, where it is planted out in a border amongst Himalayan and other tender Rhododendrons, and and has climbed high up amongst the rafters and iron girders of the roof to a height of about 40 feet. At such a distance from the ground the beauty of its flowers cannot be perceived, but a spray is reproduced in fig.156 showing the flowers, which are from 4 to 5 inches in diameter, smaller than natural size. In the bud stage the colour is a

rich copper, similar to W. Allen Richardson; this shade, however, fades rapidly as the bloom expands until, when it has been open a day or two, the colour becomes ivory white. The stamens are a bright yellow. The calyx lobes measure an inch in length, but there are specimens in the Kew Herbarium in which the lobes are even longer than this. A remarkable feature of the plant is its extraordinary vigour and the enormous amount of growth which it has made in former years. Some of the original seedlings raised from seed collected by General Collett in the Shan States were planted in several of the large houses at Kew in borders of prepared soil, and quickly made large specimens. Some of the shoots grew as much as 30 feet long. A large specimen was grown for 10 years or so in the Succulent House, where it grew rampantly. During the summer and autumn the lights on the roof were let down and the plant exposed to all the sun and light possible, being afterwards tied down close to the glass and subjected to the dry conditions of the other inmates of this house during the winter. Other specimens were grown in the main building of the Temperate House, as well as in the Mexican and Himalaya wings. The temperature in each of the houses except that of the Himalayan wing, was sufficiently high to cause the plants to continue in growth all the year round, but in the Himalayan wing the plant obtained a rest of a few months during winter. The temperature of this house is never allowed to fall more than a few degrees below freezing point. When originally planted in this house in 1899 the plant grew rapidly in the rather stiff loamy soil of the border. The soil, however, did not suit many of the other occupants of the house, and in 1906 it was replaced with a sandy peat. This has had a marked effect upon the rate of growth of the Rose, and not the hot summer of last year, for it produced flowers last year after the wet and cold summer of 1910. Cultivators would do well to try the effect of planting this Rose in a poor soil or where the roots may be restricted. They should also try the effect of a low temperature during the winter.

A full account of the discovery and history of Rosa gigantea is given in the Gardeners' Chronicle, March 4, 1905p. 136. The figure in the Botanical Magazine tab. 7972, does not convey any adequate idea of the beauty of the flowers, which are depicted as being of a dirty, greenish white.

The plant was originally discovered by Dr. Watt in 1882 during the Government demarcation survey in Manipur at altitudes of 5-6000

feet. It was later discovered by General Sir Henry Collett in the Shan Hills, Upper Burmah. It has since been collected by Dr. Henry, Mr. W. Hancock, and recently by Mr. George Forrest in North-West Yunnan, China. Mr. Forrest has discovered specimens with rose coloured flowers, which have been described as variety erubescens by Focke in Notes of the Royal Botanic Gardens, Edinburgh, v., p. 68. The variety was found in shady situations in the Lang-long, Hocking and Lichiang valleys, and is described by Mr. Forrest as 'a semi-scandent shrub of 10-20 feet, with rose-pink, fragrant flowers'. Whilst this plant closely resembles Rosa gigantea in many respects, notably in its calyx lobes and in several minor details, I am of the opinion that it is distinct. The fruit and seed, which are important characteristics in determining Roses, are wanting in the herbarium material of Focke's plant, and I have little doubt but that, when these are obtained, the plant will prove to be distinct.

An interesting account is given in the Journal of the Linnean Society, XXviii., p.6, by General Collett, of the conditions under which he found R. gigantea. Dealing with the flora of the district where it grows, he says that it' was found on a plateau, at altitudes of 4-5000 feet, where the traveller was at once struck with the temperate character of the flora. The trees were mostly Oaks and Pines, whilst the herbaceous plants were represented by species of Ranunculus, Viola, Hypericum, Clematis, etc'. Dealing with the giant Rose, he says:- "Only two species of Rosa were seen, and both were new". The beautiful R. gigantea is particularly conspicuous, climbing over the tall forest trees, from the tops of which the long pendulous branches, covered with very large, white flowers, hang down in rich profusion. This Rose, which has larger flowers than perhaps any other wild species, is seen from a considerable distance in the jungle, reminding one more of a large Clematis than of a rose... It is only locally abundant, chiefly in dark, shady valleys. The other rose referred to was R. Collettiana, which, I believe, is not yet in cultivation. C.P. Raffill."

This completes the story of the discovery and flowering of *R.gigantea*.

In the Crepin Herbarium, in Brussels, there are several specimens of the rose to be seen, including the following:

1st sheet: 'The original Collett specimen 1888, collected in the Shan Hills between Burma and Siam.'

ROSA GIGANTEA : FLOWERS IVORY - WHITE.

2nd sheet: 'Rosa khongui(?) Manipur 6000 feet. April 1882. Collectbd by G. Watt'

3rd sheet: Abbe Delavayi found *R. gigantea* in Yunnan, 1890 March.Pinkish white.

M. Francois Crepin was also closely associated with the other most distinctive Indian rose species, R. clinophylla. More on this in the next rose annual.

Indian rose lovers should indeed be grateful to the Director of the Crepin Herbarium, in the National Botanic Garden, (NBG) Brussels, Belgium, for the careful preservation of these important historical records, of such great interest to us. We are most grateful to Mr Ivan Louette, our Belgian friend who took us to the NBG and introduced us to the people in charge: and to the authorities at the National Botanic Garden for their ready assistance in tracing the records reproduced in this article when we visited the Herbarium in June 2003.

We are grateful to Mr Gene Waering for his assistance, and to Mr Brent C. Dickerson and Mr Pierre Rutten for their translation of M. Crepin's original papers from French to English.

To conclude on a personal note, Ivan Louette, who was escorting us in the N.B.G., told us, when we were in the elevator going up from the Herbarium, that he was taking us to meet a most important person. I hastily patted my hair (or what is left of it) in place, but seeing this, Ivan assured me that the V.I. P. was not one for formalities. When the elevator stopped and we got out, Ivan led us, to our surprise, to the striking marble bust of Francois Crepin!! (see photograph). A practical joke, but a most appropriate way to end our visit to the Herbarium.

M.S. (Viru) Viraraghavan and Ivan Louette checking Crepin's Herbarium sheets on *R.gigantea* and *R.clinophylla* at NBG Brussels

Bust of M. Francois Crepin at National Botanic Garden Library & Herbarium, Brussels, Belgium.

Photos Courtesy : M.S. Viraraghavan

GOLDEN THRESHOLD
(Golden Showers X Sirohi Sunrise)

(Carefree Beauty x Bonica) X Sirohi Sunrise
Two new *R.giganteu* hybrids raised by M.S. Viraragha

Photos Courtesy : M.S. Vira